

**AMENDMENTS TO THE CLAIMS**

The following is a complete, marked up listing of revised claims with a status identifier in parentheses, underlined text indicating insertions, and strikethrough and/or double-bracketed text indicating deletions.

**Listing of the Claims**

1-19. (Canceled)

20. (Currently amended) A ~~recording~~ computer-readable medium having a data structure for managing reproduction of menu data, comprising:

a video data storing area one or more playback units of video data;

a menu data area storing one or more menu data files, menu data the menu data files including a group of thumbnail pictures, each thumbnail picture corresponding to one of the playback units, the group of thumbnail pictures stored together as a block in the menu data file comprising one or more thumbnail pictures corresponding to each playback unit, each thumbnail picture stored as a block of menu data on the recording computer-readable medium; and

a menu management area storing menu management information, the menu management information providing an index to menu data,

wherein ~~at least one~~ the thumbnail pictures in the menu data file ~~are~~ is reproduced based on the menu management information.

21. (Canceled)

22. (Previously presented) The computer-readable medium of claim 20, wherein the menu data area records padding data between at least two of the blocks of menu data.

23-24. (Canceled)

25. (Previously presented) The computer-readable medium of claim 20, wherein the menu management information indicates a number of the thumbnail pictures stored in the menu data area.

26. (Previously presented) The computer-readable medium of claim 25, wherein the menu management information provides a starting address and ending address of each block of menu data, and a number of starting and ending address pairs indicates the number of the thumbnail pictures stored in the menu data area.

27. (Previously presented) The computer-readable medium of claim 20, wherein the index to a thumbnail picture is a starting address of the block of menu data for the thumbnail picture in the menu data area.

28. (Canceled)

29. (Canceled)

30. (Currently Amended) A method of reproducing menu data recorded on a computer-readable medium, the method comprising:

reading menu management information, one or more menu data files and one or more playback units of video data from the computer-readable medium, the menu management information providing of menu data,

the menu data comprising ~~one or more thumbnail pictures~~ included in the menu files; each thumbnail picture corresponding to each playback unit, the each thumbnail picture stored as a block of the menu data files on the computer-readable medium and

reproducing at least one thumbnail picture in the menu data based on the menu management information,

31. (Currently amended) A reproduction apparatus, comprising:  
~~an optical pickup~~ a reproducing unit configured to read data recorded on the computer-readable medium; and  
a controller configured to control the ~~optical pickup~~ reproducing unit to read a menu management information, one or more menu data files and one or more playback units of video data from the computer-readable medium, the menu management information providing information to menu data, the menu data ~~comprising~~ including one or more a group of thumbnail pictures, each thumbnail picture corresponding to ~~each~~ one of the playback units, ~~each the~~ group of thumbnail pictures stored together as a block of in the menu data file on the computer-readable medium; and  
a decoder configured to reproduce at least one thumbnail picture in the menu data based on the menu management information.

32. (Currently amended) A method of recording a data structure for managing reproduction of menu data recorded on a computer-readable medium, the method comprising:

recording one or more menu data files in a menu data area of the computer-readable medium, the menu data file including ~~comprising one or more~~ thumbnail pictures, each thumbnail picture corresponding to ~~each~~ a playback unit[[s]], ~~each the~~ group of thumbnail pictures stored together as a block of in the menu data file on the computer-readable medium; and

recording menu management information in a menu management area of the computer-readable medium, the menu management information providing an index to each thumbnail picture in menu data,

wherein at least one thumbnail picture in the menu data is reproduced based on the menu management information.

33. (Currently Amended) A recording apparatus, comprising:

~~an optical pickup~~ a recording unit configured to write data ~~to~~ on a computer-readable medium; and

a controller configured to control the ~~optical pickup~~ recording unit to ~~write~~ record a menu management information, menu data, and one or more playback units of video data to the computer-readable medium, the menu management information providing an index to menu data, the menu data ~~comprising~~ including one or more thumbnail pictures, each thumbnail picture corresponding to ~~each~~ one of the playback units, ~~each~~ the group of thumbnail pictures stored together as a block of menu data on the computer-readable medium,

wherein at least one thumbnail picture in the menu data is reproduced based on the menu management information.

34. (Previously Presented) The apparatus of claim 33, wherein the controller controls to record the menu data in the menu data area, the menu data area comprising padding data between at least two of the blocks of menu data.

35. (Previously Presented) The apparatus of claim 33, wherein the controller control to record the menu management information, the menu management information indicating a number of the thumbnail pictures stored in the menu data area on the computer-readable medium.

36. (Previously Presented) The apparatus of claim 35, wherein the controller control to record the menu management information providing a starting address and ending address of each block of menu data, and a number

of starting and ending address pairs indicates the number of the thumbnail pictures stored in the menu data area.

37. (Previously Presented) The apparatus of claim 33, wherein the controller control to record the index to a thumbnail picture, the index including a starting address of the block of menu data for the thumbnail picture in the menu data area.

38. (Previously Presented) The method of claim 30, wherein the menu data area comprises padding data between at least two of the blocks of menu data.

39. (Previously Presented) The method of claim 30, wherein the menu management information indicates a number of the thumbnail pictures stored in the menu data area.

40. (Previously Presented) The method of claim 39, wherein the menu management information provides a starting address and ending address of each block of menu data, and a number of starting and ending address pairs indicates the number of the thumbnail pictures stored in the menu data area.

41. (Previously Presented) The method of claim 30, wherein the index to a thumbnail picture is a starting address of the block of menu data for the thumbnail picture in the menu data area.

42. (Previously Presented) The apparatus of claim 31, wherein the controller control to reproduce the menu data from the menu data area, the menu data area comprising padding data between at least two of the blocks of menu data.

43. (Previously Presented) The apparatus of claim 31, wherein the controller control to reproduce menu management information, the menu management information indicating a number of the thumbnail pictures stored in the menu data area.

44. (Previously Presented) The apparatus of claim 43, wherein the controller control to reproduce menu management information, the menu management information providing a starting address and ending address of each block of menu data, and a number of starting and ending address pairs indicates the number of the thumbnail pictures stored in the menu data area.

45. (Previously Presented) The apparatus of claim 31, wherein the controller control to reproduce the index to a thumbnail picture, the index to a

thumbnail picture including starting address of the block of menu data for the thumbnail picture in the menu data area.

46. (Previously Presented) The method of claim 32, wherein the menu data area comprises padding data between at least two of the blocks of menu data.

47. (Previously Presented) The method of claim 32, wherein the menu management information indicates a number of the thumbnail pictures stored in the menu data area.

48. (Previously Presented) The method of claim 47, wherein the menu management information provides a starting address and ending address of each block of menu data, and a number of starting and ending address pairs indicates the number of the thumbnail pictures stored in the menu data area.

49. (Previously Presented) The method of claim 32, wherein the index to a thumbnail picture is a starting address of the block of menu data for the thumbnail picture in the menu data area.

50. (Previously Presented) The recording medium of claim 21, wherein the menu data area stores at least one thumbnail picture that is associated with a playback unit of video data recorded in a data area of the recording

medium, and the menu data area records padding data between at least two of the blocks of menu data.

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END OF CLAIM LISTING